

WHAT IS CLAIMED IS:

1. An optical receiving apparatus, comprising:
 - 5 an optical signal brancher to branch an optical input signal from an optical transmission line to a first optical signal component and a second optical signal component;
 a photodetecting element to convert the first optical signal component into an electrical signal;
 - 10 a characteristic-evaluator to evaluate transmission characteristics of the optical transmission line according to an amplitude of the second optical signal component, the means for evaluating having a saturable absorber to which the second optical signal component enters to determine a discrimination
15 threshold signal according to an amplitude of a signal light output from the saturable absorber; and
 a discriminator to discriminate the electrical signal output, according to the discrimination threshold signal determined by the means for evaluating.
2. The optical receiving apparatus of claim 1, further comprising a linear amplifier electrically coupled between the photodetecting element and the discriminator for amplifying the electric signal.
3. The optical receiving apparatus of claim 1, wherein the optical signal brancher simultaneously applies the optical input signal to the photodetecting element and the characteristic-evaluator.
4. The optical receiving apparatus of claim 1, wherein the optical signal brancher selectively applies the optical input signal to the photodetecting element and the characteristic-evaluator.

5. A method for optical reception, comprising:
 branching an optical input signal from an optical
5 transmission line into a first optical component and a second
 optical component;
 converting the first optical component into an electrical
 signal;
 applying the second optical component to a saturable
10 absorber;
 determining a receiving discrimination threshold
 according to an amplitude of an output light from the
 saturable absorber; and
 discriminating the electrical signal according to the
15 determined receiving discrimination threshold.

6. The method of claim 5, wherein branching step
 comprises simultaneously generating the first optical
 component and a second optical component.
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7. The method of claim 5, wherein branching step
 comprises selectively generating the first optical component
 and a second optical component.

8. An optical receiving apparatus, comprising:
 means for branching an optical input signal from an
 optical transmission line to a first optical signal component
 and a second optical signal component;
 means for converting the first optical signal
30 component to an electrical signal;
 means for discriminating the first electric signal;
 and
 means for evaluating transmission characteristics of
 the optical transmission line according to an amplitude of the
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second optical signal component from the brancher means, the means for evaluating having a saturable absorber to which the
5 second optical signal component enters to generate a discrimination threshold signal according to an amplitude of a signal light output from the saturable absorber, wherein the discriminating means discriminates the electrical signal, according to the discrimination threshold signal determined by
10 the evaluating means.

9. The optical receiving apparatus of claim 8, further comprising mean for amplifying the electric signal.

15 10. The optical receiving apparatus of claim 8, wherein the branching means simultaneously applies the optical input signal to the means for converting and the means for evaluating.

20 11. The optical receiving apparatus of claim 8, wherein the branching means selectively applies the optical input signal to the means for converting and the means for evaluating.